No. 8200075

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

North Carolina Agricultural Research Service

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

TOMATO

'Cherokee'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 27th day of January in the year of our Lord one thousand nine hundred and eighty-three.

Attest:

Kenneth A. Evans
Acting Commissioner

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R Block
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN &SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

FORM APPROVED: OMB NO. 0581-0006

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1. NAME OF APPLICANT(S)
North Carolina Agricultural Research Service

2. TEMPORARY DESIGNATION
NC BC_1-32

3. VARIETY NAME
Cherokee

4. ADDRESS *(Street and No. or R.F.O. No., City, State, and Zip Code)*
P. 0. Box 5847
North Carolina State University
Raleigh, NC 27650

5. PHONE *(Include area code)*
(919) 737-2718

FOR OFFICIAL USE ONLY

PVPO NUMBER
8200075

6. GENUS AND SPECIES NAME
Lycopersicon esculentum

7. FAMILY NAME *(Botanical)*
Solanaceae

FILING
DATE 3/2/82
TIME 1:00 ☐ A.M. ☒ P.M.

8. KIND NAME
tomato

9. DATE OF DETERMINATION
Aug. 28, 1981

FEES RECEIVED
AMOUNT FOR FILING
$ 500.00
DATE 3/2/82
AMOUNT FOR CERTIFICATE
$ 250.00
DATE 1/11/83

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*
A subdivision of the School of Agriculture & Life Sciences of NCSU, Raleigh, NC with responsibility for research

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
N/A

12. DATE OF INCORPORATION
N/A

13. NAME AND ADDRESS OF APPLICANT REPRESENATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Dr. D. F. Bateman, Director
North Carolina Agricultural Research Service
P. 0. Box 5847
Raleigh, NC 27650

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. ☐ Exhibit A, Origin and Breeding History of the Variety (See *Section 52 of the Plant Variety Protection Act.)*

b. ☐ Exhibit B, Novelty Statement

c. ☒ Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection* Office.)

d. ☒ Exhibit D, Additional Description of the Variety

CMB 4/5/82 per T. J. Mann

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety* Protection *Act,)*
☒ Yes *(If "Yes," answer items 16 and 17 below)* ☐ No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☒ Yes ☐ No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ Foundation ☐ Registered ☒ Certified

18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S. OR OTHER COUNTRIES?
☐ Yes *(If "Yes," give names of countries and dates)*
☒ No

19. HAVE RIGHTS BEEN GRANTED IN THE U.S. OR OTHER COUNTRIES?
☐ Yes *(If "Yes, "give names of countries and dates)*
☒ No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) **the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section** 41, **and is entitled to protection under the provisions of** Section *42* **of the** Plant **Variety Protection Act.**

Applicant(s) is (are) informed **that false representation herein can jeopardize protection and result in penalties.**

SIGNATURE OF APPLICANT
D. F. Bateman
DATE 2/25/82

SIGNATURE OF APPLICANT
DATE

INSTRUCTIONS

General: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and $500 fee ($250 *filing fee and $250 examination fee)* to U.S. Department of Agriculture, Agricultural Marketing Service, Livestock, Meat, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland *20705. (See section 180.175 of the Regulations and Rules of Practice.)* Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

Item

9 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41 (a) of the Act and (2) the date a decision was made to increase the seed.

14a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.

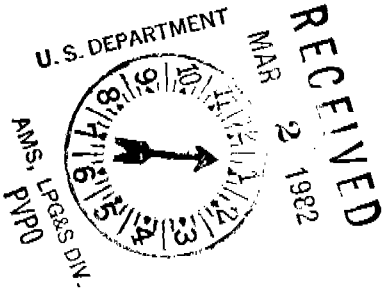
14b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.

14c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.

14d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.

15 If "Yes" is specified *(seed of this variety be sold by variety name only as a class of certified seed)* the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "No," he may change his choice. (See *section 180.16 of the Regulations and Rules of Practice.)*

18 See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.



8200075

TOMATO

'Cherokee'

13A. Exhibit A:

Pedigree: 'Walter' x 'Ace 55VF'

↓

F_2 x 'Walter'

↓

F_7 = 'Cherokee'

'Cherokee', an inbred line in the F_7 generation, was developed by the pedigree system of breeding. An F_2 selection from the cross of 'Walter' x 'Ace 55VF' was crossed with 'Walter' and selfed to the F_2 generation. Single plant selections were made in the F_1 through F_4 generations and special bulks were made in the F_5 and F_6. Seedling inoculation tests. in the greenhouse showed the F_2 and advanced generations to be homozygous resistant to race 1 (Ve gene) of Verticillium dahliae. The F_4 was determined homozygous resistant to races 1 and 2 (I, I-2 genes) of Fusarium oxysporum f. sp. lycopersici in greenhouse seedling inoculation tests.

'Cherokee' appeared stable and uniform in the F_4 through F_6 generations in research station plots and in trials of several thousand plants in grower fields. The only offtypes observed were infrequent male steriles, which did not exceed the percentage normally seen in other varieties.

13B. Exhibit B. Novelty Statement

'Cherokee' is most similar to 'Walter'. 'Cherokee' differs from 'Walter' in having the *u* and *Ve* genes, both derived from 'Ace 55VF'. The *u* gene gives uniform green shoulder color of unripe fruit, and the *Ve* gene confers resistance to race 1 of *Verticillium dahliae*.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, GRAIN, AND SEED DIVISION
BELTSVILLE, MARYLAND 20705

8200075

OBJECTIVE DESCRIPTION OF VARIETY
TOMATO (Lycopersicon esculentum Mill.)

Name of applicant	Temporary designation	Variety Name
North Carolina Agricultural Research Service	NC BC -32	Cherokee

Address (Street. and No. or R.F.D. No., City, State, Zip)
P. 0. Box 5847
North Carolina State University
Raleiah. NC 27650

FOR OFFICIAL USE ONLY
PVPO NUMBER

Choose responses which best represent your variety in the characters below. When a single quantitative value is requested (e.g. fruit weight), your answer should be the mean of an adequate, unbiased sample of plants. The applicant variety should be compared with at least one well-known standard check variety of the same type, and grown in the same trial(s). The characters on this form should be described from plants grown under normal conditions of culture for the variety. Indicate by a check whether trial data are from greenhouse ____ or field x plantings. Trials direct-seeded ____ or transplanted X . Give locations and dates of trials Fletcher. North Carolina June-Sept., 1978-1981 . Use leading zeroes when necessary (e.g. [0][9] or [0][8][1], etc.). Complete this form as fully as possible for best characterization of the variety.

1. SEEDLING: (2-15 cm, well-illuminated)

[2] Anthocyanin in hypocotyl: 1 = absent 2 = present
[1] Cotyledon: l-normal 2 = giant

2. MATUREPLANT:

[3] Growth: 1 = indeterminate 2 = semi-determinate 3 = determinate
[3] Size (compared to others of its growth type): 1 = small 2 = medium 3 = large
[2] Habit: 1 = sprawling (decumbent) 2 = semi-erect 3 = erect
[2] Foliage cover: 1 = light 2 = moderate 3 = heavy

3. STEM:

[2] Internode length (between the 1st end 4th inflorescences):
1 = short ( ) 2 = intermediate (Walter) 3 = long ( )
[2] Branching: 1 = sparse (Brehm's Solid Red) 2 = intermediate (Walter)
3 = profuse (UC82)
[2] Branching at cotyledonary or first leafy node: 1 = present 2 = absent
[2] Pubescence: 1 = smooth (no long hairs) 2 = sparsely hairy (scattered long hairs)
3 = densely hairy or canescent
[2] No. of nodes below the first inflorescence:
1 = few ( ) 2 = Intermediate (Walter) 3 = many ( )
[2] No. of nodes (leaves) between inflorescences
[2] Thickness: 1 = slender, weak 2 = medium thickness 3 = thick, stiff

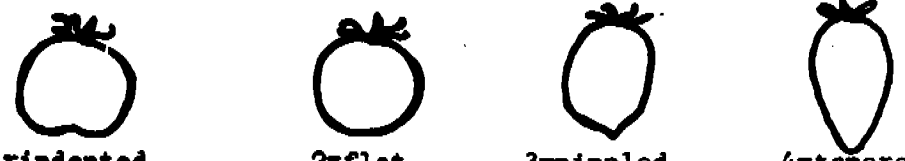
4. LEAF (Mature leaf under the 1st to 3rd inflorescence):

[1] Type: 1 = tomato 2 = potato
[2] Division: 1 = once-pinnate 2 = intermediate (pinnate-bipinnate)
3 = biplnnate, many small leaflets with the large ones
[2] Attitude: 1 = semi-erect 2 = horizontal 3 = drooping
[2] Leaflet blade: 1 = thin 2 = medium 3 = thick
[2] Bases of major leaflets: 1 = even 2 = oblique (the sides offset on petlole)
[3] Margins of major leaflets: 1 = nearly entire 2 = shallowly toothed or scalloped
3 = deeply toothed or cut, especially towards base
[1] Marginal rolling: 1 = absent 2 = present

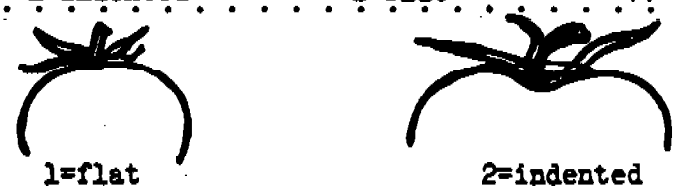
7. FRUIT (3rd fruit of 2nd or 3rd cluster): TOMATO-3

[1] Shape of transverse section:

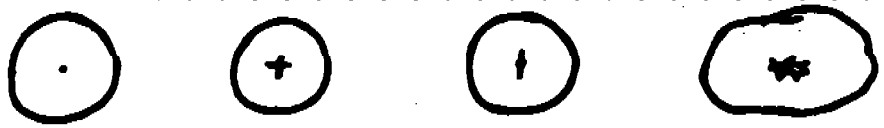
[2] **Shape of blossom end:**



[ ] Shape of stem end:



[4] Shape of pistil scar:



[1] Fruit surface: 1 = smooth 2 = slightly fasciated 3 = moderately fasciated

[1] Fruit color (mature-green stage):
1 = light green ('Lanai', **VF145-F5**) 2 = Lt. gray-green ( )
3 = apple green ('Heinz 1439 **VF**') **4** = dark green ( )

[2] Fruit pattern (mature-green stage): 1 = green shouldered 2 = uniform green

[5] Mature fruit color (full-ripe): 1 = white 2 = yellow 3 = tangerine
4 = pink **5** = red 6 = brownish-red
7 = greenish 8 = other (specify) _____

[2] Flesh color (full-ripe): 1 = yellow 2 = red 3 = crimson 4 = other _____

[1] Epidermis: 1 = normal 2 = easy-peel

[2] Epidermis color: 1 = colorless 2 = yellow

[2] Epidermis thickness: 1 = thin 2 = average 3 = thick

[3] Thickness of pericarp: 1 = thin (< 3 mm) **2 = medium (3-6 mm)** 3=thick (> 6 mm)

[3] Thickness of **pericarp** of check variety (same scale) Variety: **Flora-Dade**

[2] Core size: 1 = **coreless** 2 = small 3 = medium 4 = large

[1] Core shape: 1 = solid, unbranched 2 = branched

[1] Core texture: 1 = soft; edible 2 = tough or fibrous

[1] Stem scar size: 1 = small ( ) 2 = medium ( ) 3 = large ( )

[3] No. **of locules:** 1 = two 2 = three and four 3 = five or more

[4] Fruit firmness[1] (minimum table-ripe):
1 = extra-soft ('Gardener') 2 = very soft ('Valiant') 3 = soft ('Campbell 28')
4 = fairly firm ('Tropic') 5 = **firm ('MH-1')** 6 = very firm ('UC-82')

8. **PHENOLOGY** (Growing degree days, or heat units on a base temperature of **51°** F are preferable--but you may report either growing degree days or calendar days. Circle either "days" for calendar days, or "heat units" for **growing** degree days):

Days/heat units from seed to first open flower:

[ ][ ] **days, Application** variety

[ ][ ] days, Check variety No. 1 _____

[ ][ ] days, Check variety No. 2 _____

Days/heat units **from seed/transplant** (Indicate which) to first ripe fruit:

[ ][ ][ ] days, Application variety

[ ][ ][ ] days, Check variety No. 1 _____

days, Check variety No. 2 _____

[1] **For** definitions of these subjective terms see **Kader &** Morris (1976) In: **Proc.** 2nd Tomato Quality Workshop.

12. DISEASE AND PEST REACTION (Use code: 0-not tested, 1-susceptible, 2=resistant) If claim of novelty is baaed wholly or in part upon disease resistance, trial data should be appended (Exhibit D) and should include date and location of trial(a), method of testing, reaction of application variety, and reaction of check varieties (identified by name).

Viral Diseases:

- [0] Cucumber waaic
- [0] Tobacco waaic, Race 0
- [0] Tobacco waaic, Race 22 (Tm 22)
- [0] Curly top
- [0] Tobacco mosaic, Race 1 (Tm 1)
- [0] Tomato spotted wilt
- [0] Potato-Y virus
- [0] Tobacco wsaic, Race 2 (Tm 2)
- [0] Tomato yellows
- [ ] Other (specify) _____

Bacterial Diseases:

- [0] Bacterial canker (Corynebacterium michiganense)
- [0] Bacterial speck (Pseudomonas tomato)
- [0] Bacterial wilt (Peeudownas solanacearum)
- [ ] Other bacterial disease (specify) _____
- [0] Bacterial soft rot (Erwinia caro tovora)
- [0] Bacterial spot (Xanthownas vesicatorium)

Fungal Diseases:

- [0] Anthracnose (Colletotrichum spp.)
- [0] Brown root rot or corky root (Pytenochaeta lycopersici)
- [1] Early blight (Alternaria solani) defoliation
- [2] Fusarium wilt, Race 2 (F.oxysporum f. lycopersici)
- [0] Late blight, Race 0 (Phytophthora infestans)
- [0] Leaf mold, Race 1 (Cladosporium fulvum)
- [0] Leaf mold, Race 3 (C. fulvum)
- [0] Nailhead spot (Alternaria tomato)
- [0] Rhizoctonia soil rot (R. solani)
- [0] Southern blight (Sclerotium rolfsii)
- [2] Verticillium wilt, pace 1 (V. albo-atrum)
- [ ] Other fungal diseases (specify) _____
- [1] Botrytis rot or mold (B. cinerea)
- [0] Collar rot or stem canker (Alternaria solani)
- [2] Fusarium wilt, Race 1 (F.oxysporum f. lycopersic:
- [0] Gray leaf spot (Stemphylium solani, S.floridanu
- [0] Late blight, Race 1 (Phytophthora infestans)
- [0] Leaf mold, Race 2 (C. fulvum)
- [0] Leaf mold, other races (specify) _____
- [0] Phytophthora root rot (P. parasitica)
- [0] Septoria leaf bllght (Septoria spp.)
- [0] Target leafspot (Corynespora casiicola)
- [1] Verticillium wilt, Race 2 (V. albo-atrum)

Insect and Pests:

- [0] Colorado potato beetle (Leptinotarsa decemlineata)
- [0] Root knot nematode (Meloidogyne incognita)
- [0] Spider mites (Tetranychus spp.)
- [0] Sugar beet army worm (Spodopfora exigua)
- [0] Tobacco flea beetle (Epitrix hirtipennis)
- [0] Tomato hornworm (Manduca quinquemaculata)
- [0] Tomato fruitworm (Heliothis sea)
- [0] Whitefly (Trialeurodea vaporariorum)
- [0] Other (specify) _____

Pollutants:

- [0] Ozone
- [0] Sulfur dioxide
- [ ] Other (specify) _____

REFERENCES

Anonymous, 1976. All About Tomatoes. Ortho Books, Chevron Chemical Co., San Francisco. In three volumes: Midwest/Northeast Edition, West Edition, and South Edition.

Ware, G. W. & J. P. **McCollum,** 1968. Producing Vegetable Crops. The Interstate Printer & Publishera, Inc., Danville, Illinois, (Chapter 30, pp. 451-473, "Tomatoes".)

Webb, R. E., T. H. Barksdale, & A. K. Stoner, 1973, "Tomatoes" pp. 344-361 In: Nelson, R.R. (Ed.) Breeding Plants for Disease Resistance. Pennsylvania State University Press, University Park

Young, P. A. & J. W. MacArthur, 1947. Horticultural characters of tomatoes- Bull. Texas Agric. Expar. Stat'd."

13D. Exhibit D. Additional Description of 'Cherokee'

'Cherokee' has been similar to 'Flora-Dade' in total yield and yield of U.S. Combination Grade fruit. On Verticillium-infested soils, yields of 'Cherokee' have been almost double those of 'Walter' (Tables 1 and 2).

'Cherokee' has been similar to 'Flora-Dade' in percent of fruit in U.S. Combination and cull grades and has had higher percent U.S. Combination Grade and lower percent cull grade than 'Walter' (Tables 3 and 5).

'Cherokee' was similar to 'Flora-Dade' in 3 of 4 seasons for yield of fruit during the first 2 weeks of harvest. (Table 2).

Incidence of fruit cracking in mid and late season has been similar for 'Cherokee', 'Walter', and 'Flora-Dade' (Table 4).

Fruit size of 'Cherokee' has exceeded that of 'Flora-Dade' in all trials and has generally exceeded that of 'Walter' (Tables 5 and 6).

Table 1. Yield' (tons/acre) of tomato cultivars in grower trials in western North Carolina.

	County location							
	Buncombe		Graham	Henderson	Macon		Madison	
Cultivar	1979	1980	1979	1979	1979	1980	1979	1980
Walter		26.6	11.4					
Flora-Dade	34.2	-	15.8	15.4	29.6	30.0	27.9	17.7
Cherokee	33.7	49.9	17.9	18.9	26.1	28.4	29.7	16.2

'Based on grower box counts from 1000-plant plots of each cultivar at each location.

'Soil infested with Verticillium dahliae.

Table 2. Yield (tons/acre) of U.S. Combination Grade (U.S. No. 1 + U.S. No. 2) tomato fruit on Verticillium-infested soil. Fletcher, N.C.

	Early season[z]				Total season			
Cultivar	1978	1979	1980	1981	1978	1979	1980	1981
Walter	7.9	7.2	6.9	-	15.3	11.8	12.9	-
Flora-Dade	7.3	6.2	8.5	5.8	22.5	21.0	23.2	16.5
Cherokee	6.8	3.5	8.1	6.3	29.2	21.4	23.5	16.4
LSD (.05)	1.4	2.8	1.9	1.8	5.8	3.8	3.0	4.5

'First two weeks of harvest.

8. PHENOLOGY (Growing degree days, or heat units on a base temperature of 51° F are preferable--but you may report either growing degree days or calendar days. Circle either "days" or calendar days, or "heat units" for growing degree days) (Continued):

Days/heat units from seed/transplant (indicate which) to once-over harvest, if applicable:

[ ][ ][ ] days, Application variety [ ][ ][ ] days, Check variety No. 1 _____
days, Check variety No. 2 _____

Days/heat units from breaker to full-ripe stage:

[ ][ ] days, Application variety [ ][ ][ ] days, Check variety No. 1 _____
[ ][ ][ ] days, Check variety No. 2 _____

Shelf life of ripe fruit:

[ ][ ] days, Application variety [ ][ ] days, Check variety No. 1 _____
days, Check variety No. 2 _____

[2] Fruiting season: 1 = long ('Marglobe') 2 = medium ('Westover')
3 = short, concentrated ('VF 145') 4 = very concentrated ('UC 82')

[3] Relative maturity: 1 = early 2 = medium early 3 = medium
4 = medium late 5 = late

9. ADAPTATION (if more than one category applies, list all in rank order):

[1][ ] Culture: 1 = field 2 = greenhouse
[2][1] 1 = unstaked 2 = staked or trellised
[2][1] ☐ Principal use(s): 1 = home garden 2 = fresh market
3 = processing 4 = other _____

[ ][1] Machine harvest: 1 = not adapted 2 = adapted
[2][ ] Recommended region: 1 = Northeast/Midatlantic 2 = Southeast
[ ][ ] 3 = Midwest/Great Lakes 4 = South-central
5 = Great Plains 6 = Intermountain West
7 = Northwest 8 = Central California
9 = Southwest/So. Calififfornia 10 = General
11 = Other (specify) _____

[2] Growing season temperature: 1 = cool 2 = normal warm 3 = hot 4 = general
[1] Growing season humidity: 1 = humid 2 = semi-arid 3 = general
[1] Soils: 1 = mineral 2 = organic 3 = general

10. RESISTANCE OR TOLERANCE TO ENVIRONMENTAL STRESS:

[2] High temperature fruit set (subjective evaluation based on fruit set at temperatures that normally inhibit set in area of evaluation):
1 = poor 2 = fair 3 = good ('Summertime') AREA western North Carolina

☐ Low temperature fruit set (subjective evaluation based on fruit set at low temperatures that normally Inhibit germination): 1 = poor 2 = fair 3 = good ('Veecrop')
AREA western North Carolina

☐ Low temperature seed germination: 1 = poor ( ) 2 = fair ( )
3 = good ( )

11. RESISTANCE TO FRUIT DISORDERS (Use code: 0-unknown, l-susceptible, 2=resistant):

[2] Blossom end rot
[2] Catface
[2] Cracking, Concentric
[2] Gold fleck
[1] Bursting
[2] Cracking, radial
[2] Fruit pox
[2] Graywall or blotchy ripening

4. **LEAF** (Mature leaf **under the** 1st to 3rd lnfloresceaces) (continued):

[1] Surface of major leaflets: 1 = smooth 2 = rugose (bumpy or veiny)
[1] Leaflet: **1 = normal** 2 = slightly **wilty** 3 = **wilty**
[2] **Shape** of major leaflets: 1 = broadly ovate 2 = ovate to lanceolate
3 = slender and lanceolate, tapered to a point
[2] Pubescence or hairiness: 1 = smooth **2** = normal 3 = **wooly**
[2] Color of leaflets: 1 = light green **(Earlinorth)** 2 = medium green (Walter)
3 = gray-green ( ) 4 = dark green **(UC82)**
[4] Color of leaf **on** check variety **(same** scale): Variety Flora-Dade

5. **INFLORESCENCE:**

[1] *Type:* 1 = simple (racemose) 2 = forked (2 major axes) 3 = compound (much **branche**
[1] No. of flowers setting fruit (in 2nd or 3rd inflorescence):
1 = l-4, 2 = 4-8, 3 = 8-12, 4 = 12 or more

6. FLOWER:

[1] **Calyx:** 1 = normal (lobes awl-shaped) 2 = macrocalyx (lobes large, leaflike)
3 = fleshy
[1] Flower color: 1 = yellow 2 = old gold 3 = white or tan
[1] Style exsertion: 1 = included 2 = *even* with stamens 3 = exserted
[3] Style pubescence: 1 = absent 2 = sparse 3 = dense
[1] Anthers: 1 = all fused Into tube 2 = separating into 2 or **more** groups at **anthesis**
[1] **Fasciation** (1st flower of 2nd or 3rd infloresence):
1 = absent 2 = occasionally present 3 = frequently present

7. FRUIT (3rd fruit of 2nd or 3rd cluster):

[1] Abscission layer: 1 = present (pedicellate) 2 = absent (jointless)
[1 2] **mm.** Length of pedicel (from abscission layer or joint to **calyx** attachment)
[8] Mature fruit: Maximum diameter:
1 = small cherry **(< 20** mm) 2 = large cherry (20-35 mm)
3 = cocktail (35-48 mm) 4 = U.S. extra small (48-54 **mm**)
5 = U.S. small (54-58 **mm**) 6 = U.S. medium (58-64 **mm**)
7 = U.S. large (64-73 mm) 8 = U.S. extra large (73-88 **mm**)
9 = U.S. maximum large (88-100 **mm**) 10 = U.S. maximum large (**>** 100 **mm**)
[7] Maximum diameter of check variety, same classes as above
(Specify name) **Flora-Dade**
[2 1 9] g Fruit weight [1 8 8] **g Check variety** Flora-Dade

☐ Predominant fruit shape: